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NEW AMERICAN LINYPHIID SPIDERS

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In the present paper are given descriptions of eight new American species of the family Linyphiidae. Four of these belong in the genus *Linyphia*, and the others are near relatives. Most of the American species of this series were revised in 1936 by Helen H. Blauvelt (Festschrift Embrik Strand, vol. 2, pp. 81-171). The addition of new species of *Tapinopa* and *Drapetisca* is noteworthy, inasmuch as these genera have been represented in North America heretofore by single species. The genus *Tapinopa* is elsewhere known from only two European species. The genus *Drapetisca*, now with two American species, has a single representative in Europe and another species, *antarctica*, from Crozet Island. The identification of our American *Stemonyphantes* with the European species has been found to be unwarranted, and a new name is proposed for the American population.

The types of the species are all deposited in the American Museum of Natural History. Many of the illustrations were prepared by Mr. Wilton Ivie.

***Stemonyphantes blauveltae*, new species**

Figures 4 and 5

Stemonyphantes bucculentus EMERTON, 1882, Trans. Connecticut Acad. Sci., vol. 6, p. 64, pl. 20, fig. 1. BLAUVELT, 1936, Festschrift Embrik Strand, vol. 2, p. 159, figs. 119-126.

Stemonyphantes lineatus KASTON, 1948, Spiders of Connecticut, Bull. 70, State Geol. Nat. Hist. Surv., p. 118, pl. 13, figs. 249-253.

The American species of *Stemonyphantes*, long regarded as being the same as the European *lineatus*, differs from its near relative in genitalic and structural features. Adequate descriptions

of *blauveltae* are available in works of Emerton, Blauvelt, and Kaston as indicated in the above references. Representatives of both sexes of *lineatus* from Basel, Switzerland, have been compared with examples from the northern United States.

The principal differences are the following: The eyes of the posterior row in *blauveltae* are more equally spaced, the medians being separated by the radius (20/10) and a little farther from the lateral (20/15). In *lineatus* the medians are separated by the radius and are a full diameter from the lateral. In *blauveltae* (fig. 5) the inverted T-shaped septum has the median piece shorter and the cross piece proportionately wider than in *lineatus* (fig. 3). Blauvelt has illustrated the palpal features of the American species in fine detail. The embolic division in *lineatus* has the distal sclerite greatly expanded into a broad semilunar plate and the basal portion twisted far across the face of the tibia to cover the ventral tibial spur. Numerous minor differences can be discerned in the cymbium and palpal organ (fig. 4).

TYPE LOCALITY: Male holotype and female allotype from Apulia Hill, Onondaga County, New York, September, 1900 (H. W. Britcher).

RECORDS: New York: Male and female paratypes from Pompey, Apulia, and East Hill, Onondaga County, New York, September and October, 1900 (H. W. Britcher); male and female paratypes from Rockaway Park, Long Island, April 4, 1909; Staten Island, January 19, 1913 (C. W. Leng); Forest Park, May 24, 1908 (L. F. Barnum). Montana: Female paratype, Ringling, April 23, 1924. Utah: Male paratype, Strawberry Reservoir, September 20, 1928.

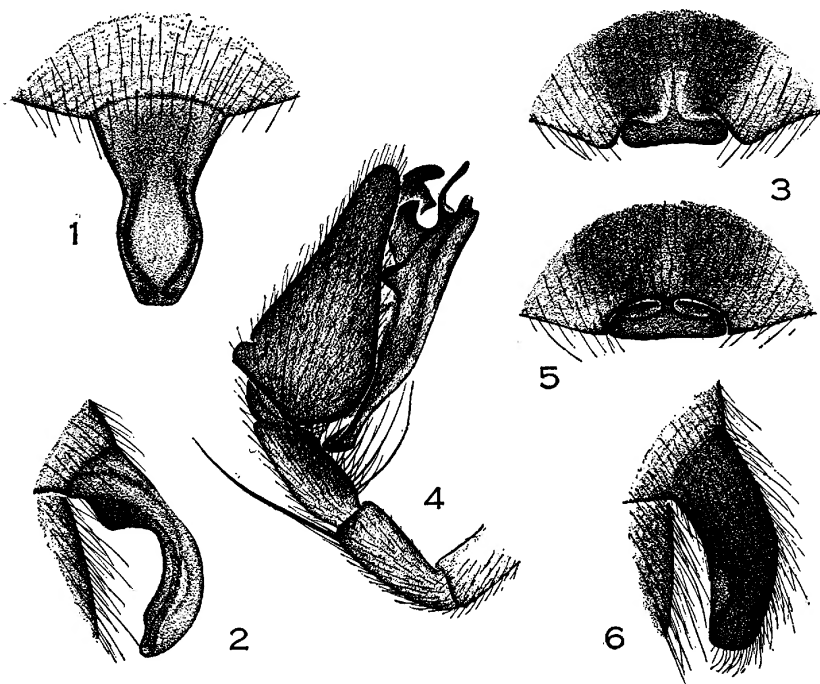
***Drapetisca oteroana*, new species**

Figures 1 and 2

FEMALE: Total length, 2.20 mm.; carapace, 1.15 mm. long, 1.00 mm. wide; abdomen, 1.15 mm. long, 0.95 mm. wide.

Coloration in close agreement with that of *Drapetisca alteranda* Chamberlin. Carapace yellowish brown, with a narrow black marginal seam, medially with a dusky patch in thoracic portion from which radiate indistinct dusky bands towards the margins. Eyes ringed with black. Carapace smooth except for a few weak black setae in eye region. Sternum coxae, maxillae, and labium pale yellow, somewhat dusky, clothed with widely spaced,

long, fine setae and more numerous thin hairs. Legs pale yellowish brown, strongly annulated in black as follows: a median and distal ring on all femora and metatarsi; an incomplete apical ring on the patellae; and an apical ring on all the metatarsi. Metatarsus and tibia of palpus strongly spinose. Tibiae of legs with well-developed dorsal and lateral spines. Chelicera



- FIG. 1. *Drapetisca oteroana*, new species, epigynum, ventral view.
FIG. 2. *Drapetisca oteroana*, new species, epigynum, lateral view.
FIG. 3. *Stemonyphantes lineatus* Linnaeus, epigynum, ventral view.
FIG. 4. *Stemonyphantes blauveltae*, new species, male palpus, lateral view.
FIG. 5. *Stemonyphantes blauveltae*, new species, epigynum, ventral view.
FIG. 6. *Pimosa vera*, new species, epigynum, lateral view.

with a frontal series of three principal long spines, the two nearest the base longer and stouter. Abdomen whitish above, mottled, with a transverse black band in front which continues around the sides and gray chevrons on the dorsum, the venter gray with white flecks.

Structure in very close agreement with that of *alteranda*. Upper margin of chelicera with five teeth, the one nearest base of

claw minute; lower margin with five in a shorter series, all well developed. Clypeus equal in height to two diameters of an anterior median eye. Eyes typical, all subequal in size. In *alteranda* the anterior median eyes are distinctly smaller than the posterior median, and the clypeus is equal to three diameters of the anterior median eye.

Legs of average length. First leg: femur, 2.10 mm.; patella, 0.95 mm.; tibia, 1.85 mm.; metatarsus, 2.15 mm.; and tarsus, 0.65 mm. long. Tibia and patella of fourth leg, 1.85 mm. long.

Epigynum as illustrated in figures 1 and 2, a prominent, protruding triangular scape, bent in apical third. In *alteranda* the scape originates from a very broad, sclerotized basal plate, is not fully twice as long as broad, and is spatuliform apically.

TYPE LOCALITY: Female holotype and immature male paratype from Camp Mary White, Otero County, New Mexico, August 26, 1934 (Stanley Mulaik).

This second species of *Drapetisca* to be described from North America is smaller than *D. alteranda* Chamberlin of the northern United States and Canada and distinct in the eyes and epigynum as noted above. In features of the epigynum *D. oteroana* has greater resemblance to *socialis* of Europe, but the scape is proportionately longer and produced at apex. *Drapetisca socialis* resembles *alteranda* in the eye relations.

Pimoa vera, new species

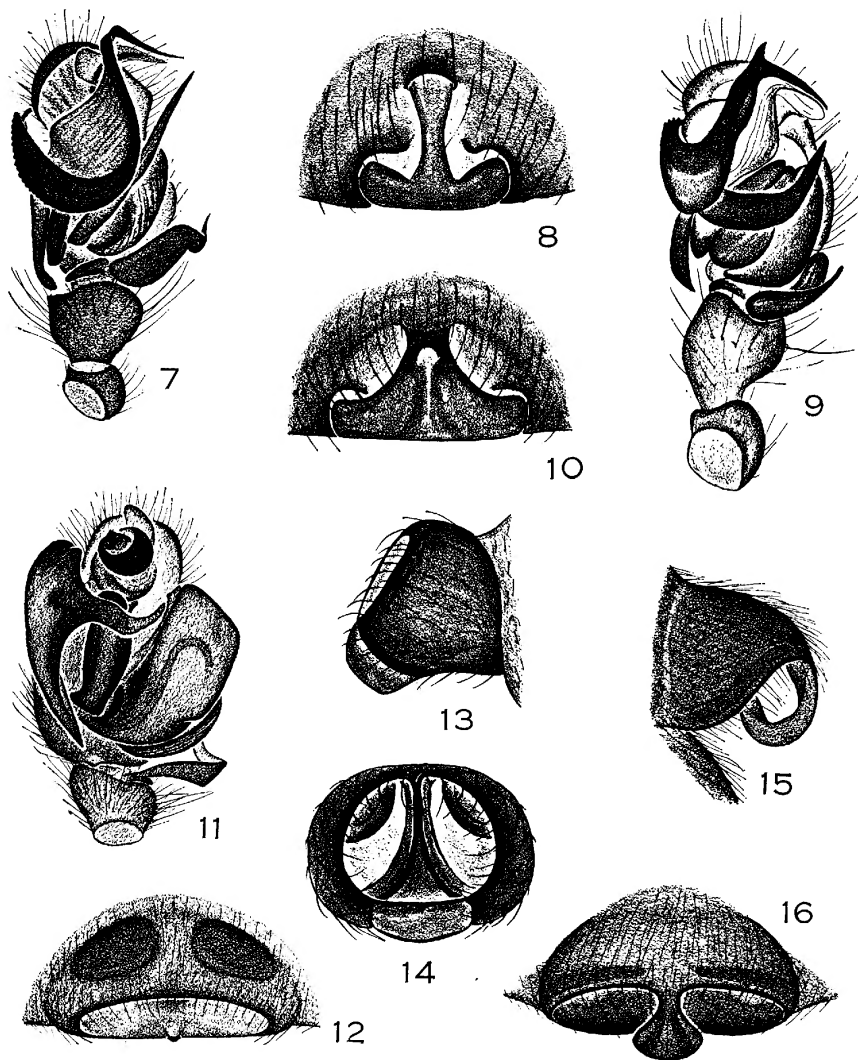
Figure 6

FEMALE: Total length, 9.25 mm.; carapace, 4.35 mm. long, 3.25 mm. wide; abdomen, 5.60 mm. long, 3.65 mm. wide.

Carapace and under side reddish brown, clothed with fine black hairs. Legs reddish brown, without annulae, clothed with fine black hairs and longer spines. Abdomen blackish above, paler in front, rather evenly covered with lighter flecks but without distinctive pattern; venter a little paler.

Structure in close agreement with that of *jellisoni* and typical species of the genus. Clypeus equal in height to two diameters of an anterior median eye. Eyes subequal in size, the four median eyes forming nearly a square figure. Chelicera with three large, widely spaced teeth on the upper margin and three smaller, equally spaced ones on the lower margin.

Legs long. First leg: femur, 9.80 mm.; patella, 1.65 mm.;



- FIG. 7. *Linyphia rita*, new species, left male palpus, ventral view.
 FIG. 8. *Linyphia rita*, new species, epigynum, ventral view.
 FIG. 9. *Linyphia catalina*, new species, left male palpus, ventral view.
 FIG. 10. *Linyphia catalina*, new species, epigynum, ventral view.
 FIG. 11. *Linyphia coosa*, new species, left male palpus, ventral view.
 FIG. 12. *Linyphia coosa*, new species, epigynum, ventral view.
 FIG. 13. *Linyphia davisii*, new species, epigynum, lateral view.
 FIG. 14. *Linyphia davisii*, new species, epigynum, ventral view.
 FIG. 15. *Tapinopa hentzi*, new species, epigynum, lateral view.
 FIG. 16. *Tapinopa hentzi*, new species, epigynum, ventral view.

tibia, 9.50 mm.; metatarsus, 10.75 mm.; and tarsus, 3.60 mm. long.

Epigynum as illustrated in figure 6.

TYPE LOCALITY: Female holotype from North Bend, Oregon (Vera Norton, collector).

This is a large species which differs little from typical species of *Pimoa* (see Chamberlin and Ivie, 1943, Bull. Univ. Utah, biol. ser., vol. 33, no. 10, pp. 9-12) except in the details of the epigynum. In ventral view this organ is an elongate, triangular, tubular scape, moderately bent in the distal half. The scape is much longer than that of any of the other species.

Linyphia coosa, new species

Figures 11 and 12

FEMALE: Total length, 3.60 mm.; carapace, 1.45 mm. long, 0.90 mm. wide; abdomen, 2.10 mm. long, 1.40 mm. wide.

Carapace dusky brown, marked with faint radiating darker lines, the eye tubercles black, relatively smooth and lacking hairs except for a few in the ocular region. Sternum dark brown, with a few erect black hairs. Labium and maxillae paler, dusky brown. Legs yellowish brown, set with rows of short hairs and with erect black bristles. Abdomen gray above, with a dark marking at base and three dark transverse chevrons which coalesce into a single black apical patch in some specimens. Sides of the abdomen with four white spots on gray patches, the last spot on each side subapical in position. Venter of the abdomen gray to black.

Structure typical, in close agreement with that of *Linyphia maculata* Emerton. Carapace elongate, oval, convex, the median groove a short linear depression. Clypeus vertical, equal in height to two and one-half diameters of a lateral eye. First eye row straight, the medians separated by the radius, more than a full diameter (10/14) from the larger lateral eyes. Second row gently recurved, the very large medians placed well above the side eyes, separated by a full diameter, half as far from the laterals which are much smaller (18/12). Median ocular quadrangle broader than long (47/40), narrowed in front (47/29), the front eyes very much smaller (18/11). Both lower and upper margins of the furrow of the chelicera with five teeth.

Legs of average length. First leg: femur, 2.00 mm.; patella,

0.40 mm.; tibia, 1.83 mm.; metatarsus, 1.95 mm.; and tarsus, 1.10 mm. long.

Abdomen suboval as seen from above; in lateral view rather high, and with a well-developed anal tubercle.

Epigynum as shown in figure 12.

MALE: Total length, 4.00 mm.; carapace, 1.80 mm. long, 1.17 mm. wide; abdomen, 2.15 mm. long; 0.85 mm. wide.

General appearance as in the female but the coloration is brighter. Carapace and legs bright orange brown. Sternum dusky. Abdomen gray, with the pattern of the female subdued, and lacking the white spots on the sides.

Structure typical, essentially as in *maculata*. Eyes essentially as in the female, but the head is somewhat more elevated, the clypeus higher (equal to nearly five diameters of lateral eye), and the posterior row of eyes is straight. Chelicera excavated under the claw, the five teeth in an irregular row. Legs proportionately longer. First leg: femur, 2.05 mm.; patella, 0.38 mm.; tibia, 1.90 mm.; metatarsus, 2.30 mm.; and tarsus, 1.16 mm. long.

Palpus as illustrated in figure 11.

TYPE LOCALITY: Female holotype, male allotype, and female paratypes, Uphapee Creek, Tuskegee, Macon County, Alabama, October 30, 1940 (A. F. Archer).

OTHER RECORDS: Alabama: male, female, and immature paratypes, Hog Creek, Bay Minette, Baldwin County, November 7, 1940 (A. F. Archer); male and three females, Five Points, Chambers County, July 1, 1940 (A. F. Archer); two females, Dyas Creek, Baldwin County, June 25, 1940 (A. F. Archer); female, Clear Creek, Jackson County, June, 1940 (A. F. Archer); female, Hatchet Creek, Coosa County, June 1940 (A. F. Archer); female, Monte Sano, Madison County, December, 1940 (A. F. Archer); male and immature female, Flomaton, Escambia County, January 8, 1941 (A. F. Archer); female, 5 miles east of Opelika, Lee County, 1939 (A. F. Archer).

***Linyphia davisi*, new species**

Figures 13 and 14

FEMALE: Total length, 2.68 mm.; carapace, 1.06 mm. long, 0.64 mm. wide; abdomen, 1.60 mm. long, 1.05 mm. wide.

Carapace dark brown, dusky, with faint radiating black streaks, the eye tubercles black. Sternum dark brown. Coxae

dusky beneath at apical end. Legs yellowish brown, uniformly dusky. Abdomen for the most part black above, with an irregular quadrangular pale maculation just behind the base; sides black, with a broken longitudinal gray band in which are three or four white flecks; venter black or nearly so, with a white fleck on each side just behind the genital groove.

Structure in close agreement with *Linyphia coosa*, new species. Posterior median eyes large, separated from each other by slightly more than the diameter, about half as far from the laterals. Upper margin of furrow of chelicera with three, the lower with five, teeth. Legs of average length. First leg: femur, 1.03 mm.; patella, 0.27 mm.; tibia, 0.90 mm.; metatarsus, 0.96 mm.; and tarsus, 0.54 mm. long.

Abdomen suboval, about three-fourths as high as long, the caudal end rounded to form a slight tubercle.

Epigynum as illustrated in figures 13 and 14.

TYPE LOCALITY: Female holotype, Pass Christian, Mississippi, August 12, 1938 (L. I. Davis).

This is a much smaller species than *clathrata* and *digna*, species that most nearly approach it in the structure of the epigynum. In *davisi* the atrium is suborbicular.

Linyphia catalina, new species

Figures 9 and 10

FEMALE: Total length, 4.00 mm.; carapace, 1.70 mm. long, 1.20 mm. wide; abdomen, 2.25 mm. long, 1.40 mm. wide.

Carapace nearly uniform dark brown, the eye tubercles black. Sternum and labium very dark brown, nearly black, the maxillae and chelicerae paler brown. Legs pale yellowish brown, unmarked except for inconspicuous rings or spots at distal end of the joints. Abdomen gray, with a pattern in black as follows: dorsum margined with a black band which is scalloped behind, and which encloses a median, long, narrow, black band which breaks up into chevrons behind. Sides of abdomen with a white band from base to middle, two white spots behind it, and a white band around the caudal end. Venter dusky brown, unmarked.

Structure typical, in close agreement with *Linyphia maculata* Emerton and related species. Clypeus vertical, equal in height to two and one-third diameters of an anterior lateral eye. First row of eyes procurved, the dark medians separated by scarcely

their diameter, one and one-half times their diameter from the laterals which are larger in the ratio 15/12. Second row of eyes recurved, the large medians strongly elevated, separated by one and one-half times their diameter, one-third as far from the laterals which are about half as large. Median ocular quadrangle broader than long (57/45), narrowed in front (57/30), the front eyes about half the diameter of the large posterior median eyes. Sternum longer than broad, the posterior coxae separated by about half the width. Upper margin of furrow of the chelicerae with four, the lower with five, smaller teeth. Outer margin of chelicera with a large patch of very fine ridges made up of irregular rows of tiny elevations.

Legs of average length. First leg: femur, 2.10 mm.; patella, 0.53 mm.; tibia, 1.95 mm.; metatarsus, 2.07 mm.; and tarsus, 1.28 mm. long.

Abdomen with an inconspicuous apical tubercle.

Epigynum as illustrated in figure 10.

MALE: Total length, 4.15 mm.; carapace, 1.75 mm. long, 1.27 mm. wide; abdomen, 2.30 mm. long, 1.10 mm. wide.

Color as in the female except for the abdomen which is nearly black on the whole dorsum, showing only faintly the darker pattern of chevrons.

Structure in very close agreement with that of the female. Chelicera with a series of weak teeth on the frontal aspect, with three teeth in a curved row on the upper margin, and a single bifid tooth on the lower margin. Clypeus equal in height to four diameters of an anterior lateral eye. Legs proportionately longer than in the female. First leg: femur, 2.45 mm.; patella, 0.50 mm.; tibia, 2.43 mm.; metatarsus, 2.50 mm.; and tarsus, 1.40 mm. long.

Palpus as illustrated in figure 9.

TYPE LOCALITY: Male holotype, male paratype, and female allotype from near the Ranger Station, Mt. Lemmon, Santa Catalina Mountains, Arizona, July 12-15, 1940 (J. M. and W. J. Gertsch).

OTHER RECORDS: Arizona: two male paratypes, Bear Wallow, Santa Catalina Mountains, July 12-15, 1940 (J. M. and W. J. Gertsch); two female paratypes from Summerhaven, Santa Catalina Mountains, July 10, 1940 (J. M. Gertsch); male paratype, 17 miles northeast of Whiteriver, July 8-10, 1940 (J. M. Gertsch); two female paratypes, Santa Rita Moun-

tains, 4000–4500 feet, May 15, 1937 (Robert Crandall); two male and three female paratypes from Ramsey Canyon, 7500 feet, Huachuca Mountains, June 15, 1940 (D. C. Lowrie).

***Linyphia rita*, new species**

Figures 7 and 8

FEMALE: Total length, 4.00 mm.; carapace, 1.40 mm. long 1.10 mm. wide.; abdomen, 2.50 mm. long, 1.45 mm. wide.

Carapace bright orange brown in the holotype, yellow in the allotype. Coloration otherwise in very close agreement with that of *Linyphia catalina*.

Structure differing in no important respect from *catalina* except in the epigynum which is illustrated in figure 8.

First leg: femur, 1.10 mm.; patella, 0.50 mm.; tibia, 2.50 mm.; metatarsus, 2.17 mm.; and tarsus, 1.30 mm. long.

MALE: Total length, 3.55 mm.; carapace, 1.40 mm. long, 0.95 mm. wide; abdomen, 2.05 mm. long, 0.85 mm. wide.

Carapace orange brown, dusky, and with black lines radiating from the median groove. Sternum dusky orange, the labium dusky, the maxillae orange brown, the legs pale yellow, dusky at the ends of segments. Abdomen all blackish.

Structure as in *catalina*. Abdomen weakly constricted at the middle. First leg: femur, 2.00 mm.; patella, 0.38 mm.; tibia, 1.93 mm.; metatarsus, 2.10 mm.; and tarsus, 1.17 mm. long. Tibia and patella of fourth leg 1.68 mm. long.

Palpus as illustrated in figure 7.

TYPE LOCALITY: Female holotype from Madera Canyon, Santa Rita Mountains, Arizona, July 16, 1940 (Jean M. Gertsch). Male allotype and female paratype from same station, September 10, 1950.

This pretty species is quite closely allied to *Linyphia catalina* and differs most conspicuously in the genitalia. The median septum of the female epigynum is equal to the width of the cross piece. The embolus of the male palpus is a thin, convoluted spine, and the conductor is far thinner than in *catalina* and not provided with a sharp spur at apex.

***Tapinopa hentzi*, new species**

Figures 15 and 16

FEMALE: Total length, 3.20 mm.; carapace, 1.63 mm. long, 1.10 mm. wide; abdomen, 1.60 mm. long, 1.35 mm. wide.

Carapace very dark brown to black on the sides and in most of the ocular region, with a median, longitudinal, yellow stripe which extends forward between the posterior median eyes, is as wide as these eyes just behind, is indented at the middle and narrowed at the distal end. Clypeus and a band along the side of the head dull yellow. Sternum brown, with a pale spot behind the labium. Labium dusky at base, paler apically. Maxilla yellowish brown, dark brown on the outer side. Coxae yellow, with a black patch at apex beneath. Legs pale yellow, strongly marked with black as follows: femora with a median dark patch above and an apical ring; patella black; tibia and metatarsus with a subbasal and an apical black ring. Abdomen mostly white above, with four pairs of black spots; with a black maculation on each side; the venter with a median black band.

Structure in close agreement with *Tapinopa bilineata*. Clypeus equal in height to scarcely two-thirds of the diameter of the median eye. First eye row recurved as seen from in front, the large medians separated by about one-fourth the diameter, as far from the laterals which are smaller in the ratio of 25/17. Second row of eyes essentially straight, the medians separated by the full diameter, half as far from the subequal lateral eyes. Median ocular quadrangle as broad as long, narrowed behind (52/46), the front eyes larger in the ratio of 25/15.

Chelicera yellowish brown, with a black patch at base, with a sharp spine near base on inner side; upper margin of the furrow with eight long teeth, the middle ones longest; lower margin with seven small teeth.

Legs of average length. First leg: femur, 1.30 mm.; patella, 0.43 mm.; tibia, 1.16 mm.; metatarsus, 1.16 mm.; and tarsus, 0.63 mm. long.

Epigynum as illustrated in figures 15 and 16.

TYPE LOCALITY: Female holotype, Shades Mountain, 43 miles west of Acton, Jefferson County, Alabama, March 4, 1940 (A. F. Archer).

OTHER RECORDS: Two immature female paratypes, Oak Mountain State Park, Shelby County, Alabama, July and August, 1940 (A. F. Archer); female paratype, Sepulga River, Conecuh County, Alabama, January 10, 1941 (A. F. Archer).

This is a much smaller species than *Tapinopa bilineata* Banks. As seen from above the caudal margin of the epigynum is essentially truncate, whereas in *bilineata* it is rounded or angled behind.

